PAINTBALL GUN BARREL WITH COMPRESSION CHAMBER

BACKGROUND OF THE INVENTION

This invention relates to paintball guns, more specifically, a paintball gun barrel with compression chamber which is used to obtain more distance and greater accuracy of paintball shots.

Paintball is a recreational activity deemed "the sport of the new millennium." In its most basic form, paintball brings together two opposing teams competing at a game of capture the flag. A pneumatic air gun is used which propels a gelatin capsule filled with water soluble paint at opposing players. When a person is shot with the capsule, he or she is then removed from the game. The game is won when a player successfully returns the opponents flag to their own team's flag station. Thus, highly accurate shooters are valuable for a team's defense.

Conventional paintball guns used by players use compressed carbon dioxide (CO_2) to fire the paintballs. The barrels of the guns are honed smooth on the inside and have helically-ported holes through which the CO_2 is released rapidly. Unfortunately, the smooth inside barrels causes the paintballs to bounce within the barrel when the shots are fired, thus resulting in lower shooting accuracy. In addition, the rapid release of CO_2 reduces the distance traveled by the paintball.

Thus, the present invention helps to increase the accuracy and distance of the paintball shots fired by the user by utilizing an outer tube with a filter and discharge holes for CO_2.

The prior art includes the following United States patents:

Patent No.	Inventor	Filing Date	Issue Date
5,228,427	Gardner, Jr.	05/06/1991	07/20/1993
5,136,923	Walsh, Jr.	07/08/1991	08/11/1992
1,127,250	Humm	05/23/1914	02/02/1915
2,043,731	Bourne	02/17/1936	06/09/1936
2,448,382	Mason	10/26/1944	08/31/1948
984,750	Craven	02/01/1910	02/21/1911
2,503,491	Janz	03/29/1948	04/11/1950
1,487,214	Dezendorf	03/18/1921	03/18/1924

Although some of the above prior art disclosures silencers having a similar structure with inner and outer perforated tubes and packing between them, none is exactly like the present invention in which there is a spirally scored barrel and a compression chamber having an inner tube with holes, a sponge filter and an outer tube with discharge holes for increasing distance and accuracy of the paintball shots fired.

SUMMARY OF THE INVENTION

The primary object of the present invention is to provide a paintball gun barrel with compression chamber which increases the distance of the paintball shots fired.

A further object of the present invention is to provide a paintball gun barrel with compression chamber which increases the accuracy of the paintball shots fired.

The present invention fulfills the above and other objects by providing a paintball gun barrel with compression chamber for a paintball gun which is spirally scored, and having a compression chamber made up of an outer tube and an inner tube. Both the outer and inner tubes have port holes for the release of CO_2.

However, the outer tube also has an internal filter which essentially slows the release of the CO_2, thus providing greater accuracy and distance when firing paintball shots.

The above and other objects, features, and advantages of the present invention should become even more readily apparent to those skilled in the art upon a reading of the following detailed description in conjunction with the drawings wherein there is shown and described illustrative embodiments of the invention.

BRIEF DESCRIPTION OF DRAWINGS

This invention is described by appended claims in relation to a description of a preferred embodiment with reference to the following drawings which are explained briefly as follows:

FIG. 1 is a side view of the present invention installed on a paintball gun;

FIG. 2 is a side view of the inner tube component of the present invention;

FIG. 3 is a side view of the outer tube of the present invention;

FIG. 4 is a cross sectional view along lines 4-4 of the embodiment of **FIG. 1**;

FIG. 5 is a cross sectional view along lines 5-5 of the embodiment of **FIG. 3**; and

FIG. 6 is a cross sectional view along lines 6-6 of the embodiment of **FIG. 1**.

DESCRIPTION OF PREFERRED EMBODIMENT

Listed numerically below with reference to the drawings are terms used to describe features of this invention. These terms and numbers assigned to them designate the same features throughout this description.

1. paintball gun
2. outer tube
3. breech end
4. muzzle end
5. receiver
6. butt
7. CO_2 cartridge
8. grip
9. trigger
10. breech
11. ball retainer
12. barrel
13. inner tube
14. thread
15. porthole
16. filter
17. lip
18. endpiece

With reference to **FIG. 1**, a side view of the present invention installed on a paintball gun **1** is shown. The barrel **12** has a breech end **3** and a muzzle end **4**. A typical paintball gun **1** also has a receiver **5** in a butt **6** of the paintball gun **1** for receiving a CO_2 cartridge **7** which powers the firing of the paintballs from the paintball gun **1**. The paintball gun **1** also has a grip **8** and a trigger **9**. A breech **10** is located above the trigger **9** and a ball retainer **11** feeds paintballs into the breech **10** for firing. The outer tube **2** has portholes **15** dispersed across the surface to aid in the release of CO_2 when shots are fired. The portholes **15** are tear-shaped so as to impart a spin to the paintball for even better accuracy.

In **FIG. 2**, a side view of the inner tube **13** component of the present invention is shown. The inner tube **13** has tear-shaped portholes **15** dispersed across the surface to promote the release of CO_2. Two sets of threads **14** are located on the barrel **12**. An endpiece **18** is located on the inner tube **13** at the muzzle end **4**.

With reference to **FIG. 3**, a side view of the outer tube **2** of the present invention is shown. The outer tube **2** has tear-shaped portholes **15** dispersed across its surface.

Referring to **FIG. 4**, a cross sectional view along the lines 4-4 of the embodiment of **FIG. 1** is shown. The outer tube **2** has an internally located filter **16**, which preferably has a spongy consistency and is permeable. The outer tube **2** and filter **16** surround the inner tube **13**.

With reference to **FIG. 5**, a cross sectional view along the lines 5-5 of the embodiment of **FIG. 3** is shown. The outer tube **2** has a filter attached within. The outer tube **2** also has a lip **17** located on the muzzle end **4** and threads **14** located on the breech end **3**. Because the filter **16** is spongy and porous, the portholes **15** dispersed across the surface of the outer tube **2** are visible in this cross-sectional view.

Referring to **FIG. 6**, a cross sectional view of the present invention along lines 6-6 of the embodiment of **FIG. 1** is shown. When the present invention is installed on a barrel **12**, the endpiece **18** of the inner tube **13** is pressed against the lip **17** of the inner tube **13** and extends slightly past the muzzle end **4** of the outer tube **2**.

To secure the outer tube **2** onto the inner tube **13**, the user places the outer tube **2** over the inner tube **13** until the outer tube **2** is resting on the threads **14** of the inner tube **13**. The user then rotates the outer tube **2** clockwise so as the threads **14** on the outer tube **2** secure to the threads **14** on the inner tube **13**. A compression chamber is now formed for increasing distance and accuracy of shots from a paintball gun **1**.

The use of the present invention will permit CO_2 to exit the barrel **12** at a slower rate of speed compared to conventional paintball guns by using the outer tube **2** having a filter **16** and portholes **15**. This reduction of CO_2 released speed will increase the accuracy of the firing of the paintballs. In addition, the spirally scored inner tube **13** will impart a spin to the paintball for even better accuracy.

It is to be understood that while a certain form of the invention is illustrated, it is not to be limited to the specific form or arrangement of parts herein described and shown. It will be apparent to those skilled in the art that various changes may be made without departing from the scope of the invention and the invention is not to be considered limited to what is shown and described in the specification and drawings.